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Integrating ICT in Traditional Training - Reactions of Teachers and Pupils' Involved in FISTE Project Activities

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Abstract

The paper presents some aspects related to the teachers and pupils' reactions concerning the introduction and integrating of ICT in the teaching and learning process of various branches of knowledge. The study was developed in the frame of the 118766-2004-RO-COMENIUS-2.1. Project *"FISTE - A Future Way for In-Service Teacher Training across Europe"* (http://fiste.ssai.valahia.ro), project co-funded by the European Commission, Education and Training, School Education: Socrates: Comenius. The analysis was performed on a sample of 245 teachers and over 2100 pupils from five European countries - Romania, Spain, Finland, Iceland and Latvia - involved in the educational process from pre-primary, primary, lower and upper secondary schools. The respondents were asked to write their opinions about the use of ICT during the teaching and learning process of different scientific topics by filling different evaluation and impact questionnaires designed by the FISTE partnership.

Selection and/or peer review under responsibility of the 2nd World Conference on Psychology, Counselling and Guidance.

Keywords: pedagogical use of ICT; teacher training; on-line course; pupils'feedback; Comenius 2.1 Project

1. Introduction

During the last years, the on-line courses represents a powerful alternative in which innovative learning and teaching techniques are combined with a strong interaction between the tutor and students. Due to all changes that are taking place in the educational area in this period, the teachers have not so much time to participate in traditional (face-to-face) courses and the teachers' interest to participate to different on-line courses focused especially on the introduction of ICT in the teaching process grew faster and faster. In addition, the participation to an on-line course promotes the extension of the social interaction through cooperative and collaborative learning.

From another point of view, introducing ICT in the educational process aims at making pupils get used with the information processing and assimilating the more active and autonomous learning activities. There is a fast natural evolution of the ICT technologies gained by the pupils nowadays. Some schools adopt a probable future approach and let the integration of ICT evolve as being prescribed to them.

Trying to develop the level and the ways of integrating ICT in the teaching process of different scientific subjects and to increase, in the same time, the quality of the in-service teacher training, the partnership of the three years

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Comenius project entitled "FISTE - A Future Way for In-Service Teacher Training across Europe" designed and organized the on-line course "Integrating ICT in Traditional Training" with a total duration of 40 hours, as a main product of the project. The partnership of the FISTE project was composed by Valahia University Targoviste - as coordinating institution - and other six partner institutions from five European countries: University of Oulu (Finland), Iceland University of Education (Iceland), University of Latvia (Latvia), In-Service Teacher Training Jerez (Spain), Babes-Bolyai University Cluj Napoca (Romania) and National Academy of Physical Education and Sports Bucharest (Romania). The overall aim of the project is to improve the quality and possibilities for the teacher education and is based on the need for innovative and effective ideas in the in-service teacher training.

The reasons that led to the organizing of the FISTE project during 2004-2007 were the common problems from the educational area encountered at that time by all the FISTE partners, such as: a) in-service teacher education is not efficient if it is not a real part of teachers' daily work; b) the costs for teachers' participation to different face-to-face courses prohibit schools from sending their teachers to be trained in the frame of those courses; c) the future demands more and more upgrading in knowledge and teaching methods; d) in-service teachers find it difficult to be away from work for a long time; e) in-service teachers must experience learning, by using ICT and ODL, in order to augment their future teaching activities. Due to these aspects, the overall aim of the FISTE project was focusing on finding new ways of how to train in-service teachers in their continuing education and how the teachers themselves can learn and upgrade their knowledge and teaching methods by using ICT. The attainment of this aim involved the achieving of the following specific objectives: to develop methods for integrating ICT tools with the face to face teaching/learning methods in the teachers' daily work, to apply methods for teaching in various learning environments (cooperative platform, Virtual Reality environment and Videoconference environment), to improve in-service teachers' using and understanding of ICT to support their own work in meaningful ways, to develop the European cooperation and awareness, to improve the research base of knowledge about how to integrate face-to-face learning with web-based learning in European initial and in-service teacher education, to disseminate the results of the project at local, national and European level (Gorghiu, 2007).

2. Description of the procedure

The content of the on-line course "Integrating ICT in Traditional Training" organized in the frame of the FISTE was focused on the presentation of different methods for integrating face-to-face and web-based learning tools and was based on the individual work combined with the collaborative discussions. The course was designed in English and translated then in 5 national versions, in Romanian, Spanish, Finnish, Icelandic and Latvian, being offered to the initial and in-service teachers by using an e-learning environment - BSCW (Be Smart – Cooperate Worldwide, the former Basic Support for Cooperative Work) which supported asynchronous and synchronous cooperation between the different partners over the Internet (Gorghiu et al, 2005).

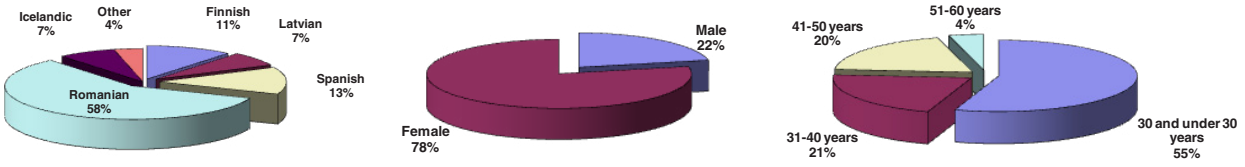
One of the main units of the course, entitled "Pedagogical Use of ICT in Teaching and Learning", was designed as a learning material that supports teachers' pedagogical use of ICT in their teaching practice and to give new ideas how to organize teaching as learner-learner oriented, emphasizing social interaction, particularly cooperative and collaborative learning. Another main unit of the course, "Using Technology", was focused to present the new technologies that can be used in the teaching process as alternatives to the traditional (face-to-face) teaching methods. The course had a common structure but in the implementation unit the participants could realize their expertise gained during the third and fourth units in the way they wanted.

During the Training Stage period 245 teachers from five European countries (Romania, Spain, Finland, Iceland and Latvia) have been initially enrolled in the on-line course and only 216 of them finalized the course, designed new projects related to the use of ICT in education and implemented them in their classrooms. It was a challenge and a wonderful possibility to motivate not only the participating teachers but also to involve over 2100 pupils in the implementation process of the new teaching methods, giving them a new dimension of learning. In order to obtained the teachers and pupils reactions related to the use of the new teaching methods by pedagogical use of ICT, the Evaluation Group of the FISTE partnership designed a collection of assessment tools and applied them in different moments of the training and implementing process. In this way, the on-line course participants were asked to fill in the "Students' Initial Evaluation Questionnaire" and "Students' Final Evaluation Questionnaire" at the beginning and the final point of the course. From those 216 teachers who finalized the course and produced 226 new ICT tools to be integrated in the teaching process, only 150 of them implemented their products in the classroom and fulfill the

"Questionnaire about the Use of ICT Impact in the Classroom (for initial and in-service teachers)". In addition, in order to assess the pupils' opinions related to the use of the new ICT tools during the teaching and learning process of different topics, after the implementation process over the 2100 pupils were asked to fill also a "Questionnaire about the Use of ICT Impact in the Classroom (for pupils)". All the assessment tools included questions for evaluating the BSCW platform, the on-line course content and other elements involved in the teaching / learning process. An on-line database collected the answers of the Evaluation Questionnaires and it served as the information source for various statistics (Gorghiu & Gorghiu, 2007).

3. Results and Discussions

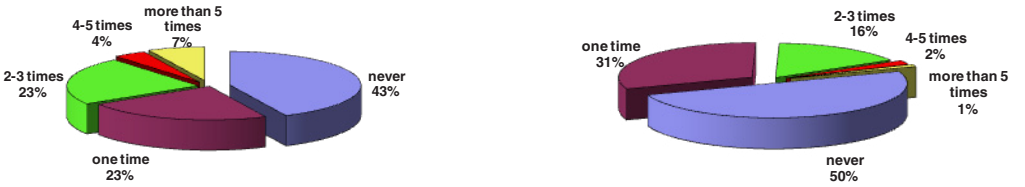
A short analysis will be presented in the following, based on the final overview on the teachers' reactions related to the lessons learned after the participation to the on-line course "Integrating ICT in Traditional Training". The main characteristics concerning the teachers' target group involved by all the partners in the on-line course are presented in Figure 1.



(a) (b) (c)

Fig. 1. On-line course participants: (a) nationality distribution; (b) gender distribution; (c) age distribution

Before to analyze the teachers' answers, it has to take into account their participation in previous ICT courses (figure 2a) and Pedagogical use of ICT courses (figure 2b). The most important thing to be mentioned is that almost 50% of the 245 teachers initially enrolled in the on-line course have never been involved in courses oriented on the pedagogical use of ICT in education (Gorghiu, 2007).



(a) (b)

Fig. 2. Teachers' participation in previous courses: (a) oriented on ICT; (b) oriented on pedagogical use of ICT

Analyzing the teachers' answers, it can be emphasized that ICT facilities of the school play an important role on the development of learning and teaching based on new teaching methods which involve using ICT in education. Unfortunately, working with a computer at school and having the Internet access at school was still under discussion at that time for almost 48% of the participants, meanwhile only 10% of them used always these facilities, 24% of them used often and 18% of them used quite often the same facilities (Gorghiu et al., 2006).

In the same time, using the computer or Internet for preparing lessons and materials for pupils was identified as another weak point for the participants. However, the computers and the Internet became common to be used in lesson preparation for over 50% of the participants. Related to the ICT tools implementation in the teaching process, the analysis proved that 22% of the teachers did not use such kind of tools before the participation in the on-line course. In addition, 59% of them have never introduced Internet platforms in their lessons.

Taking into account the data presented above it can be concluded that most of the teachers were interested in ICT and its pedagogical aspects in the teaching / learning process, independent of their knowledge concerning ICT or

their direct access to the computers. In the same time the big number of subscribing participants to the on-line course proved that ICT became a real challenge for Eastern European teachers.

Even that some new technologies were presented during the on-line course, analyzing the teachers final products, it can be concluded that participants were really impressed by Camtasia Studio software application and its facilities. A lot of participants produced very good quality video products adapted to their lessons with this software.

Concerning the pedagogical problems encountered by the on-line course participants, the practice proved that these were related mostly to the collaborative work. The participants were anxious to present and discuss their ideas in groups. In some institutions there were no activities related to collaborative work meanwhile in some there took place some collaborative activities. The content of the course was evaluate by some of the teachers too wide for the purpose because they had really little experience in using ICT in teaching and learning. Some participants followed only strict orders about how to create their own products and they were a little bit confused of the freedom in making their own decision in choosing the material and in its implementation.

However, the big rate of achievement of the on-line course (88%) proved that the participants enjoyed the course, appreciated its utility and as a result they had improved their knowledge in educational use of the ICT. In addition, almost 70% of the teachers who finalized the course implemented their products in the classroom, involving over 2100 pupils from the partner countries as indirect and principal beneficiaries of implementing the new methods and technologies in the teaching/learning process.

Concerning the pupils' target group, the analysis was performed on a sample of 2190 pupils involved in the educational process from pre-primary, primary, lower and upper secondary schools from Romania, Finland, Spain and Latvia. The distribution of 2190 pupils through the FISTE partner institutions is illustrated in figure 3a, meanwhile the pupils' distribution by level of education being presented in figure 3b.

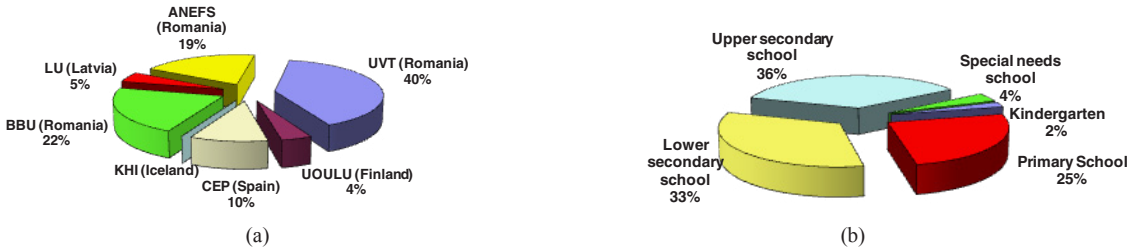


Fig. 3. Pupils' feedback: (a) distribution by FISTE partner institution; (b) distribution by level of education

Even in some of the lessons, the computer/ICT tools interfered only in certain steps of the lesson, and in others, the whole lesson was lead by using the computers like in Informatics, the pupils' answers proved that the lessons can be successful animated by using ICT based on teaching methods or different video products. These methods and tools have the advantage of stressing by intuition, analysis and logics different dimensions of the studied aspects, supporting the learning process, in accordance with different types of learning (Olteanu et al., 2007).

The analysis emphasized that most of the pupils considered the use and implementation of the ICT in the teaching / learning process very useful. About 80% of the pupils from lower secondary school and 90% from upper secondary school mentioned that the lessons were more attractive and easy understanding. This means that it is suitable to use ICT tools in the future lessons and also to extend these practices to all the disciplines. However, some of the students answered that the lesson proceeded too fast.

Those who were also able to use the computer during lessons felt that computers were used too much and they were not advised and taught enough to use the computer. Some other also criticized that sometimes teachers use computers in teaching just because they want to use technology, even if they wouldn't be necessary.

Overall, the ICT teaching products based lessons were considered as very helpful for improving learning process by the large majority of pupils (89%). There were very few negative answers, but about 11% indecisive answers, an indicator that in some cases teachers might use these multimedia products more as an entertaining complementary teaching and learning tool, without trusting the real educational value of them.

4. Conclusions

Combining the data collected from both of the "Students' Initial Evaluation Questionnaire" and "Students' Final Evaluation Questionnaire" filled by the teachers at the beginning and the end of the on-line course "Integrating ICT in Traditional Training" with data obtained from the teachers and pupils answers filled in the related forms of the "Questionnaire about the Use of ICT Impact in the Classroom", the following conclusions can be emphasized:

- A positive teachers' attitude was emphasized, on the basis of the teachers' answers concerning the modalities of how to implement ICT tools during the teaching/learning process.
- New ideas and innovative ways concerning how to use and blend the new technologies with the traditional methods of teaching/learning were discovered and shared between the participants involved in the on-line course "Integrating ICT in Traditional Training".
- However, the teachers have stressed that even though the new technologies are implemented in the classroom, they have to keep the control of the class, to organize the children in different task-oriented activities and to use these new technologies when they decide and how much they consider.
- The analysis lead to a general profile of the teacher who began to understand the importance of technology in his/her process of formation. They consider it as included in the relation teacher-classroom-student.
- Both teachers and pupils' answers proved that the pedagogical use of the ICT leads to: (a) the easier understanding of the discipline content due to the using of ICT; (b) the increasing of the quality of the learning process; (c) the feeling that the use of ICT tools needs to be extended to the teaching of the whole palette of disciplines; (d) the great attractiveness of the new teaching methods that combine ICT with traditional ones.

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